



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/714,133 | 11/14/2003 | Tsuyoshi Ohyama | 09792909-5730 | 3928 |

26263 7590 12/23/2008
SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

| |
|----------|
| EXAMINER |
|----------|

SCHLICHTER, ANDREW M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2871

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

12/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/714,133

Applicant(s)

OHYAMA ET AL.

Examiner

ANDREW SCHECHTER

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-10, 18-20 and 23-45 is/are pending in the application.
4a) Of the above claim(s) 8-10 and 23-45 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 18-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 September 2008 has been entered.

Response to Arguments

2. Applicant's arguments filed 10 September 2008 have been fully considered but they are not persuasive. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues [pp. 7-9] that the amendments to claim 18 overcome the previous rejections in view of *Roosendaal*. This is not persuasive. The first amendment is to recite forming a retardation film on "only" one of the substrates; the applicant argues [p. 8] that *Roosendaal* requires an additional back optical foil 16b. This is not persuasive. The amended claim language does not actually require that the method forms no other retardation films than the one recited as "a retardation film", it merely requires that this particular retardation film be formed on "only" one of the substrates [that is, there could be other retardation films elsewhere, while still being within the

scope of the claim]. Also, even if the claim language were more carefully chosen to exclude any other retardation films in the device, the applicant's argument would still appear to be unpersuasive, since *Roosendaal* refers to the additional back optical foil 16b as "optional" [at col. 3, lines 51-52, a passage cited but not quoted on p. 8 of the applicant's response].

The second amendment adds a new limitation, that the liquid crystal layer has a phase difference of $\lambda/4$ in the reflective area and a phase difference of $\lambda/2$ in the transmissive area when no voltage is applied or when a voltage is applied. This is not disclosed by *Roosendaal*, but it does not patentably distinguish the claims due to the teaching of *Kim*, applied below.

Double Patenting – Non-Statutory

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 18-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 13 of copending Application No. 11/277,461 in view of *Roosendaal et al.*, U.S. Patent No. 6,731,360 in view of *Kubota et al.*, U.S. Patent No. 6,771,334 and *Kitagawa et al.*, U.S. Patent No. 6,404,469. Although the conflicting claims are not identical, they are not patentably distinct from each other because copending claim 13 discloses all the limitations of claim 18 except for the retardation film being formed on an alignment film, which is taught by *Roosendaal* as discussed below in the prior art rejections. The additional limitation of claim 19 is taught by *Roosendaal* and the additional limitation of claim 20 is taught by *Kubota* and *Kitagawa* [see prior art rejections below].

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Roosendaal et al.*, U.S. Patent No. 6,731,360 in view of *Kim*, U.S. Patent No. 6,570,634.

Roosendaal discloses [see Fig. 1, for instance] a method of manufacturing a liquid crystal display which has a pair of substrates [inherent] and a liquid crystal layer [12] interposed between the substrates and which has a reflective area [on left] and a transmissive area [on right], the method comprising the steps of forming a retardation film [16a] on only one of the substrates [note that there could be other retardation films elsewhere], and patterning the retardation film such that the retardation film remains only in the reflective area [col. 5, lines 22-26, etc.]. *Roosendaal* does not (perhaps) explicitly disclose that an alignment film is formed on at least one of the substrates and the retardation film is formed on the alignment film.

However, *Roosendaal* does disclose manufacturing the patterned quarterwave foil by photo-polymerization of a reactive liquid crystal material, and states that “[these] materials get their orientation from thin polymer alignment films; similar to those used to orientate a liquid crystal layer” [col. 6, lines 4-8]. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to form an alignment layer between the substrate and the retardation film in *Roosendaal*, motivated by *Roosendaal*’s teaching that this is the means by which the retardation film gets its orientation.

Roosendaal does not appear to disclose that the liquid crystal layer has a phase difference of $\lambda/4$ in the reflective area and $\lambda/2$ in the transmissive area when no voltage

is applied or when a voltage is applied. The liquid crystal phase differences are apparently the same in the two areas, in part due to the cell gap being the same in the two areas.

Kim discloses an analogous device with different cell gaps in the reflective and transmissive areas [compare Figs. 3 and 6], such that the liquid crystal has a phase difference of $\lambda/4$ in the reflective area and $\lambda/2$ in the transmissive area in a voltage on or voltage off state [col. 8, lines 6-8]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use such an arrangement in the above device, motivated by *Kim*'s teaching that this arrangement provides for higher luminance in the transmissive mode [col. 5, lines 21-23 and see discussion of Fig. 7].

Claim 18 is therefore unpatentable.

The retardation film is composed of a liquid crystal polymer [col. 6, lines 4-8], so claim 19 is also unpatentable.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Roosendaal et al.*, U.S. Patent No. 6,731,360 in view of *Kim*, U.S. Patent No. 6,570,634 as applied above, and further in view of *Kubota et al.*, U.S. Patent No. 6,771,334 and *Kitagawa et al.*, U.S. Patent No. 6,404,469.

Roosendaal does not disclose that the liquid crystal polymer is obtained by curing an ultraviolet-curable liquid crystal monomer in a nematic phase. *Kubota* discloses an analogous device and teaches that the retardation film with differing regions can be obtained by curing a "UV crosslinking liquid crystal polymer" [col. 10, lines 34-40]. *Kubota* is silent on the nematic phase limitation; *Kitagawa* discloses such

a compensator in a nematic phase [col. 3, lines 6-17]. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the retardation layer a liquid crystal polymer of such a composition (UV curable material) in a nematic phase, motivated by *Kitagawa's* teaching that the production process for such sheets is known and they are commercially available (reducing uncertainties and experimentation in manufacturing), and *Kubota's* and *Kitagawa's* teaching that they allow control of optical characteristics including retardation. Claim 20 is therefore unpatentable.

Election/Restrictions

8. Claims 8-10 and 23-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 4 August 2005.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Schechter/
Primary Examiner, Art Unit 2871
Technology Center 2800
14 December 2008